

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method for transmitting data packets in multiple data flows to/from a mobile station in a mobile communications system having a packet data transmission capability, the method comprising:

setting up a data transmission path for the mobile station for routing data packets through the mobile communications system;

transmitting data packets through the mobile communications system between said mobile station and an external communication system;

associating multiple profiles with the data transmission path, each profile comprising several quality parameters;

providing each of said multiple data flows with a profile tag indicating one of the multiple profiles associated with the data transmission path in question; and

scheduling and policing the transmission of individual data packets on the basis of said several quality parameters of the profile indicated by the profile tag associated with each of the data flows in question.

2. (Previously Presented) A method according to claim 1, further comprising:
executing at least two applications in said mobile station, each application belonging to a class/type and having at least one flow associated thereto;

transmitting, within a single transmission path, data packets of said at least two applications; and

providing each flow of each application class/type with a profile tag indicating each quality parameter required by the respective application class/type.

3. (Previously Presented) A method according to claim 2, further comprising providing each flow of each individual application with a profile tag.

4. (Currently Amended) A method according to claim 1, further comprising providing each of several individual data packet with a profile tag.

5. (Previously Presented) A method according to claim 1, providing, as quality parameters, each profile with priority information indicating one of at least two priority levels.

6. (Previously Presented) A method according to claim 1, further comprising: providing in the mobile communications system at least one connection leg with at least two paths having different reliabilities;

providing, as one quality parameter, each profile with reliability information indicating one of at least two reliability classes; and

multiplexing the data packets to said at least two paths according to said reliability information.

7. (Previously Presented) A method according to claim 1, further comprising: forming in the mobile communications system at least one connection leg with a connection-oriented path and a connectionless path, the former being more reliable than the latter; and

deciding whether to send a data packet over the connection-oriented path or the connectionless path on the basis of said reliability information.

8. (Previously Presented) A method according to claim 7, further comprising multiplexing data packets associated with two or more profiles to said connection-oriented and connectionless paths in said at least one connection leg.

9. (Previously Presented) A method according to claim 1, wherein at least one of the profiles comprises at least one further quality parameter indicating a further limit for said scheduling and policing.

10. (Previously Presented) A method according to claim 9, wherein said at least one further quality parameter includes one or more of the following: mean bit rate, peak bit rate, service precedence, delay class and reliability.

11. (Currently Amended) A method according to claim 1, wherein: said at least one further quality parameter defines a mean bit rate;

the actual mean bit rate used by the mobile station is monitored; and
data packets to/from the mobile station are discarded, or at least their precedence is lowered if the actual mean bit rate exceeds the mean bit rate defined by said at least one further quality parameter.

12. (Previously Presented) A method according to claim 1, further comprising mapping quality parameters used in the mobile communications system to those used in a user application in said mobile station or to those used in said external communication system, and vice versa.

13. (Previously Presented) A method according to any claim 2, further comprising:

establishing one default profile which is associated with said data transmission path, and a specific profile for each application or application class/type being executed in the mobile station; and

reading a quality parameter from the default profile if the corresponding quality parameter is missing from the specific profile in question.

14. (Previously Presented) A method according to claim 1, further comprising associating a packet data protocol context known per se with the data transmission path.

15. (Previously Presented) A method according to claim 13, further comprising associating said multiple profiles with said packet data protocol context.

16. (Previously Presented) An apparatus for transmitting data packets in multiple data flows in a mobile communications system having a packet data transmission capability, the apparatus being arranged to:

set up a data transmission path for the mobile station for routing data packets through the mobile communications system;

transmit data packets through the mobile communications system between said mobile station and an external communication system;

associate multiple profiles with the data transmission path, each profile comprising several quality parameters;

provide each of said multiple data flows with a profile tag indicating one of the multiple profiles associated with the data transmission path in question; and

schedule and police the transmission of individual data packets on the basis of said several quality parameters of the profile indicated by the profile tag associated with each of the data flows in question.

17. (Previously Presented) An apparatus according to claim 16, wherein the apparatus is or comprises a mobile radio station.

18. (Previously Presented) An apparatus according to claim 16, wherein the apparatus is a support node of a packet radio network.